10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Podocalyxin (PODXL) (Hematopoietic Stem Cell Marker) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone 4F10]
Catalog # AH12085

Product Information

Application	IHC, IF, FC
Primary Accession	O00592
Other Accession	5420, 732423
Reactivity	Human, Rat, Rabbit
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgM
Clone Names	4F10
Calculated MW	58635

Additional Information

Gene ID	5420
Other Names	Podocalyxin, GCTM-2 antigen, Gp200, Podocalyxin-like protein 1, PC, PCLP-1, PODXL, PCLP, PCLP1
Application Note	IHC~~1:100~500 IF~~1:50~200 FC~~1:10~50
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Podocalyxin (PODXL) (Hematopoietic Stem Cell Marker) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PODXL
Synonyms	PCLP, PCLP1
Function	Involved in the regulation of both adhesion and cell morphology and cancer progression. Functions as an anti-adhesive molecule that maintains an open filtration pathway between neighboring foot processes in the podocyte by charge repulsion. Acts as a pro- adhesive molecule, enhancing the adherence of cells to immobilized ligands, increasing the rate of migration and cell-cell contacts in an integrin-dependent manner. Induces the formation of apical actin- dependent microvilli. Involved in the formation of a preapical plasma membrane subdomain to set up initial epithelial polarization and the apical lumen formation during renal tubulogenesis. Plays a role in cancer

	development and aggressiveness by inducing cell migration and invasion through its interaction with the actin-binding protein EZR. Affects EZR-dependent signaling events, leading to increased activities of the MAPK and PI3K pathways in cancer cells.
Cellular Location	Apical cell membrane. Cell projection, lamellipodium. Cell projection, filopodium. Cell projection, ruffle Cell projection, microvillus. Membrane raft. Membrane; Single-pass type I membrane protein. Note=In single attached epithelial cells is restricted to a preapical pole on the free plasma membrane whereas other apical and basolateral proteins are not yet polarized Colocalizes with NHERF2 at the apical plasma membrane during epithelial polarization. Colocalizes with NHERF1 at the trans-Golgi network (transiently) and at the apical plasma membrane. Its association with the membrane raft is transient. Colocalizes with actin filaments, EZR and NHERF1 in a punctate pattern at the apical cell surface where microvilli form. Colocalizes with EZR and NHERF2 at the apical cell membrane of glomerular epithelium cells (By similarity). Forms granular, punctuated pattern, forming patches, preferentially adopting a polar distribution, located on the migrating poles of the cell or forming clusters along the terminal ends of filipodia establishing contact with the endothelial cells. Colocalizes with the submembrane actin of lamellipodia, particularly associated with ruffles Colocalizes with vinculin at protrusions of cells. Colocalizes with ITGB1. Colocalizes with PARD3, PRKCI, EXOC5, OCLN, RAB11A and RAB8A in apical membrane initiation sites (AMIS) during the generation of apical surface and luminogenesis (By similarity).
Tissue Location	Glomerular epithelium cell (podocyte).

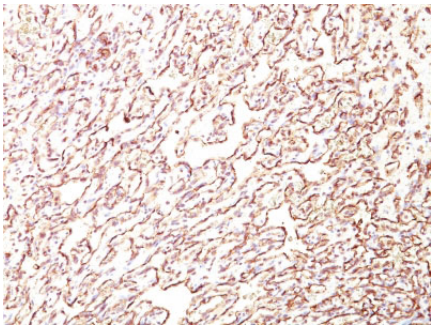
Background

Podocalyxin is a member of the CD34 transmembrane sialomucin family. It is over-expressed on the podocyte foot projections and plays essential roles in kidney development and homeostasis, blood filtration and urine formation. It is also expressed on vascular endothelia, hematopoietic progenitors and a subset of neurons. Overexpression of podocalyxin may be linked to more aggressive tumor behavior. Podocalyxin antibody can identify podocytes in the urine (podocyturia) that may indicate glomerular disease, pre-eclampsia, and other kidney pathology.

References

Kershaw DB et. al. J Biol Chem 272:15708-15714 (1997). | Sassetti C et. al. J Exp Med 187:1965-1975. 3. Nielsen JS et. al. J Am Soc Nephrol 20:1669-1676 (2009)

Images



Formalin-fixed, paraffin-embedded human Angiosarcoma stained with Podocalyxin Monoclonal Antibody (4F10).